



Acoustic Monitoring

Visitor Observation of Rare Bird

In March of 2001, a prominent birder/ornithologist visiting Congaree National Park spotted and heard a small warbler species that he recognized as a Bachman's warbler, a bird many believe to be extinct. This bird is noted in literature as the "rarest bird in North America." Some bird guides do not even show or list the Bachman's warbler because of the general belief that it has disappeared as a result of limited original population numbers overall and destruction of its preferred habitat. Bachman's warblers favor living in forest habitats where cane plants and understory shrubs grow below the trees. This type of habitat is found within Congaree National Park. The news of a Bachman's warbler sighting excited many and in the Spring of 2002 skilled ornithologists spent more than 150 hours searching for Bachman's warbler, but to no avail.



A stationary autonomous recording unit (ARU) installed in tree.

Park Research takes Flight

Dr. Kurt Fristrup and Robert MacCurdy, Researchers from the Cornell Lab of Ornithology, have implemented an acoustic monitoring study to listen for a variety of bird calls, including the Bachman's warbler and ivory-billed woodpecker, both thought to be extinct. Since most bird species can be identified through precise attention to their distinctive vocalizations, sophisticated tape recorders, known as autonomous recording units (ARUs), have been installed at several locations in the park. These devices will operate until May 2004, at which point computer analysis of the recordings will distinguish which bird species have been present during the recording period. (Cornell Lab of Ornithology houses the "Library of Natural Sounds" which is utilized by researchers worldwide for acoustic monitoring projects.) In addition to recording bird calls in the early morning hours the recording units will detect amphibian vocal calls (used to attract mates) in the evening hours. This will provide identification of amphibian species residing in the park, including Fowler's toad, little grass frog, and Northern cricket frogs. Overflight noise from aircraft will be recorded using the same equipment also.



Balloon carrying recording equipment is launched by researcher Robert MacCurdy.

The second phase of this research project will be carried out in the Spring of 2005 when additional ARUs will be placed in new locations. The additional year will allow for more of the park to be monitored and will provide more data on birds, amphibians, and aircraft. Another component of the ARU study is the use of helium filled balloons to fly recording devices at low altitudes above the tree canopy in the park. The balloons carry recording equipment- microphones, amplifiers, computer components, recording equipment, and GPS tracking and transmitting equipment – all of which are tethered below the balloon. Depending on wind currents, these mobile ARUs could record sounds from a broad area of the park. The park staff assisted Dr. Fristrup and Robert MacCurdy with a preliminary balloon launch in March of 2004, but to correct technical challenges adjustments must be made before additional balloons launches are conducted. Modifications will be made to the ARU balloon equipment in preparation for multiple "flights" in the Spring of 2005.

Websites for more information:

Worldwide bio-acoustic monitoring projects conducted by Cornell researchers. www.birds.cornell.edu/brp

Cornell on line bird field guide www.birds.cornell.edu/onlineguide

Amphibian research:

The North American Amphibian Monitoring Project www.mp2-pwrc.usgs.gov/naamp